**Introduction:**

The aim of this experiment is to observe the determining forces that direct natural selection, and evolution by proxy, of an air-breathing land-snail called *Cepaea nemoralis*. This work would represent, to an extent, the underlying forces to natural selection itself, how they interact with one another and how they ultimately affect the polymorphic evolution and distribution of *C. nemoralis*.

The forces that will be taken under close scrutiny are genetic drift and gene flow. Genetic drift is defined as the change in allele frequency in a given population due to random sampling. It is a continuously occurring process due to the fact that it is dependent on the presence of singular organisms. In contrast, Gene flow, which is the transfer of alleles or entire genes from one population to next, is dependent on more than one population interacting with one another. When put into context with natural selection, it can be said that genetic drift occurs in the ‘background’ and is completely independent to it, whilst gene flow is a selection-dependent process.

Any given diploid organism can have two or more different alleles designated for one specific gene locus. This allelic pair, or this gene, is what then controls the phenotypic trait associated to it, though it must be said that such correlations are seldom linear. The consequent genetic variety is termed polymorphism, and is the foundation upon which natural selection can act. Natural selection, as defined by Charles Darwin himself, is the evolutionary drive by which each slight variation of a trait of an organism, if useful, is preserved when interacting with the environment (Darwin, 61).

Previous studies done on *C. nemoralis* such as the review paper by Jones *et al*, have indicated that polymorphism in this organism is a complex phenomenon whose analyses reveal contrasting and overlapping results in a non-linear relationship (Jones *et al*, “Polymorphism in *Cepaea*; A Problem with too many solutions?”). Considering that *C. nemoralis* is what could be called a model organism in this field of study, it can be anticipated that for other organisms with much more complex behavioral patterns, the interactions between these principles would be nigh impossible to predict reliably.

**References:**

**Bibliography:**

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